



Abstract

The present teachings relate to methods, compositions, and kits for detecting one or more target polynucleotide sequences in a sample. In some embodiments of the present teachings, oligonucleotides are hybridized to complementary target polynucleotides and are ligated together to form a ligation product. In some embodiments of the present teachings, the ligation product can be amplified, and the identity and quantity of the target polynucleotides determined based on sequence introduced in the ligation reaction. Some embodiments of the present teachings allow for the detection of target polynucleotide sequences by hybridization of a mobility probe to sequence information introduced in the ligation reaction. Some embodiments of the present teachings provide for highly multiplexed detection, identification, and quantification of a plurality of target polynucleotides using a variety of analytical procedures.